

ABSTRACT OF THE DISCLOSURE

Disclosed is a method for synchronizing a scrambling code in a CDMA communication system including a UTRAN (UMTS Terrestrial Radio Access Network) and a plurality of user equipments (UEs), using orthogonal codes for identifying the UEs and a single scrambling code for identifying the UTRAN by the UEs, and employing an uplink synchronous transmission scheme (USTS) where the UEs synchronize frames of uplink dedicated physical channels (DPCHs) using the single scrambling code. The UEs receive a reference signal including reference time information provided from the UTRAN and transmit a random access channel (RACH) based on the reference time. The UTRAN receives the random access channels from the UEs to measure a propagation delay time (PD) of each random access channel signal from the UEs, and transmits a transmission time adjustment value calculated using the measured propagation delay time and a time offset $\tau_{DPCH,n}$ between a transmission time point of the reference signal and a transmission time point of a downlink DPCH. Each UE determines a transmission time of the uplink DPCH by receiving the transmission time adjustment value, and scrambles a message with the orthogonal code and a scrambling code generated at the reference time, at the transmission time so determined as to transmit the message over the uplink DPCH.